

25. (New) A polishing method according to claim 22, wherein said solvent has a property of dissolving a solute of said first polishing liquid and does not substantially contain any solute.

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26. (New) A polishing method according to claim 22, wherein said solvent consists essentially of water.--

REMARKS

Regarding the Office Action:

The nonfinal Office Action of December 12, 2002 reopened prosecution of the present application after the Appeal Brief, filed on August 5, 2002, in line with M.P.E.P. § 1208.02, 8th Ed., Aug. 2001, p. 1200-25. In the Office Action, the Examiner objected to the July 16, 2002 Information Disclosure Statement (IDS); rejected claims 11 and 17 – 22 under 35 U.S.C. § 103(a) as unpatentable over Vanell, et al. (U.S. Patent No. 5,750,440)¹ in view of Danielson, et al. (U.S. Patent No. 5,407,526); and rejected claim 12 under 35 U.S.C. § 103(a) as unpatentable over Westmoreland (U.S. Patent No. 6,143,192) in view of Danielson as applied to claim 17, and further in view of Takikawa, et al. (U.S. Patent No. 4,574,292).

¹ Applicants note that the Examiner listed the reference corresponding to U.S. Patent No. 5,750,440 as "Westmoreland" on pp. 3 and 4 of the Office Action, as it was used in previous Office Actions, despite the fact that newly-applied U.S. Patent No. 5,750,440 corresponds to Vanell and is listed on the "Notice of References Cited" (Form PTO-892) attached to the Office Action.

FINNEGAN
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FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

Regarding the Amendment:

In this Amendment, Applicants amend claims 17 and 22 to more appropriately define the invention, and add new claims 23 – 26 to protect additional aspects of the present invention. Applicants submit that the amendments contain no new matter, in accordance with the requirements of 37 C.F.R. § 1.121(f). In accordance with the requirements of 37 C.F.R. § 1.121(c)(1), Applicants provide a marked-up version of the amended claims in an attached Appendix designated “Version of Claims with Markings to Show Changes Made.” Upon entry of this Amendment, claims 11 – 26 remain pending, with claims 13 – 16 withdrawn from consideration as drawn to a nonelected invention, the Restriction Requirement having been traversed in the Amendment filed on November 8, 2001, and claims 1 – 10 previously cancelled without prejudice of disclaimer of their subject matter. Claims 11, 12, and 17 – 26 are under current examination.

Applicants also direct the Examiner to the specification at page 7, lines 11 – 17, as an exemplary section that demonstrates support for amended language of claims 17 and 22. Applicants respectfully remind the Examiner that “[a]mendments to an application which are supported in the original description are NOT new matter.” M.P.E.P. § 2163.07, p. 2100-172, emphasis in original.

Applicants submit that these amendments should render the application in condition for allowance after consideration of the remarks that follow, and should not place any burden on the Examiner insofar as raising new issues or requiring further searches of the art for her to reconsider the claims, as amended.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER ^{LLP}

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
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Procedural Issues Regarding Applicants' IDS, Filed on July 16, 2002:

In the Office Action of December 12, 2002 ("12/12/02 OA"), the Examiner alleged Applicants' July 16, 2002 Information Disclosure Statement (IDS) "fail[ed] to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because Japanese documents 9-17972, 4-156511, and [2000-053946] lack an English translation" (12/12/02 OA, page 2, lines 5 – 7), by using form paragraph 6.49. *See* M.P.E.P. § 609(III)(C)(1)(a), p. 600-130. Applicants submit that the Examiner's allegations are wholly unfounded, and note that one of the three documents was incorrectly listed as "2000-253946."

Applicants' July 16, 2002 IDS fully complies with the requirements of 37 C.F.R. §§ 1.56, 1.97, and 1.98. Applicants cited three Japanese patent documents on the PTO-1449 included with the IDS, namely JP 9-17972, 4-156511, and 2000-053946, and explicitly stated in the IDS that "[i]n lieu of a statement of relevance or translation of the non-English documents, an English translation of the Japanese language version of the search report from the Japanese Patent Office in the corresponding application citing these documents and setting forth the relevance thereof is enclosed" (page 2, lines 1 – 4). Applicants submit this statement of relevance for the non-English language documents is specifically in compliance with 37 C.F.R. § 1.98(a)(3)(i), which allows for "a concise explanation of the relevance ... of each patent, publication, or other information listed that its not in the English language."

Therefore, having established that Applicants' IDS fully complies with the requirements of 37 C.F.R. §§ 1.56, 1.97, and 1.98, Applicants direct the Examiner's attention to the proper section of the M.P.E.P., namely § 609(III)(C)(2), pp. 600-131 – 600-132, which states in relevant part:

“Information which complies with requirements as discussed in this section but which is in a non-English language *will be considered in view of the concise explanation submitted* ... in the same manner that non-English language information in Office search files is considered by examiners in conducting searches. ... *The examiner will indicate that the non-English language information has been considered in the same manner as consideration is indicated for information submitted in English.* The examiner should not require that a translation be filed by applicant” (emphasis added).

Applicants therefore again request that the Examiner consider the documents listed on the July 16, 2002 form PTO-1449 attached to the IDS. As a courtesy to the Examiner, Applicants resubmit a copy of the PTO-1449 form filed on July 16, 2002 herewith, for the Examiner to initial to indicate consideration of the cited Japanese documents. Applicants request that the Examiner return a signed and initialed copy of that PTO-1449 form to Applicants.

Applicants remind the Examiner that:

“*Examiners must consider all citations submitted in conformance with the rules and this section, and their initials when placed adjacent to the considered citations on the list or in the boxes provided on a form PTO-1449 ... provides a clear record of which citations have been considered by the Office. The examiner must also fill in his or her name and the date the information was considered in blocks at the bottom of the PTO-1449 ... [and] a copy of the ... form PTO-1449 ... as reviewed by the examiner, will be returned to the applicant with the next communication. ... The copy returned to applicant will serve both as acknowledgement of receipt of the information disclosure statement and as an indication as to which references were considered by the examiner.*” *Id.* at 600-131, emphasis added.

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1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
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Regarding the Rejection of Claims 11 and 17 – 22 under 35 U.S.C. § 103(a):

In the 12/12/02 OA, the Examiner rejected claims 11 and 17 – 22 under 35 U.S.C. § 103(a) as unpatentable over Vanell, et al. (U.S. Patent No. 5,750,440) (*See* footnote 1, *supra*) in view of Danielson, et al. (U.S. Patent No. 5,407,526).

Applicants respectfully traverse the rejections of claims 11 and 17 - 22, as detailed above, for the following reasons. Applicants respectfully disagree with the Examiner's arguments and conclusions, and submit that a *prima facie* case of obviousness has not been established.

In order to establish a *prima facie* case of obviousness, three basic criteria must be met. First, the prior art reference (or references when combined) must teach or suggest all the claim elements. Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify a reference or to combine reference teachings. Third, there must be a reasonable expectation of success. *See* M.P.E.P. § 2143, pp. 2100-122 – 127.

These three requirements notwithstanding, Applicants also note that the Examiner has not made a proper 35 U.S.C. § 103(a) rejection. The M.P.E.P. sets forth that:

“35 U.S.C. 103 authorizes a rejection where, to meet the claim, it is necessary to modify a single reference or to combine it with one or more other references. After indicating that the rejection is under 35 U.S.C. 103, *the examiner should set forth* in the Office action:

(A) *the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line number(s) where appropriate,*

(B) the difference or differences in the claim over the applied reference(s),

(C) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter, and

(D) an explanation why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification.” M.P.E.P. § 706.02(j), p.700-31, emphasis added.

In particular, the Examiner has not set forth “(A) the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line number(s) where appropriate.” *Id.* In support of this, and as evidence that the Examiner has not established a *prima facie* case of obviousness, Applicants raise three main points.

First, Applicants point to pages 3 and 4 of the 12/12/02 OA, wherein the Examiner consistently referred to the “Westmoreland” reference, despite having changed the corresponding patent number to match “Vanell.” All the text of the Examiner’s arguments on page 3 of the 12/12/02 OA are *identical* to those made in the Final Office Action of January 3, 2002 (“01/03/02 Final OA”) (including typographical errors), except for the phrases “As pertaining to claim 17 – 22,” (line 4), “reads on” (line 14), “13; column 1, lines 37-41; and column 3, lines 66-67, which reads on” (lines 19 – 20), and “as in claims 12,” (line 22). Furthermore, all of the prior art citations provided on page 3 of the 12/12/02 OA, for example, refer to Westmoreland and not to Vanell (including the newly cited “column 1, lines 37-41; and column 3, lines 66-67” (line 19)). Applicants checked the Examiner’s citations and note that they still correspond to Westmoreland and also have no discernable correspondence to, or meaning or purpose in Vanell.

For example, the Examiner alleged:

“[Vanell] teaches ... removing ruthenium metal and/or ruthenium dioxide includes an amount of ceric ammonium nitrate, that may be in the form of a liquid etchant solution, and in one form, and, in one form, [sic] the solution may be an aqueous solution wherein ceric ammonium nitrate and, optionally, other solutes,

FINNEGAN
HENDERSON
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GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
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are dissolved in liquid water (column 3, line 42-49)..." (12/12/02 OA, page 3, lines 4 – 8).

Applicants note, however, that "column 3, line 42-49" of Vanell instead discloses:

"However, reservoir 32 that supplies a chemical 22 to slurry mixer 11 has a preferred volume of approximately 100-1,000 liters. Therefore, although slurry mixer 11 is depicted as being larger than reservoir 32, it is understood that, in actuality, slurry mixer 11 is much smaller than reservoir 32. Due to its small size, slurry mixer 11 can be mounted in-line..."

This clearly does not correspond to the text of the Examiner's allegations. To avoid belaboring the point, Applicants note that the Examiner's other citations to "column 3, line 42-49," "column 3, lines 55-57," and even newly-cited "column 5, lines 10-13; column 1, lines 37-41; and column 3, lines 66-67" in the 12/12/02 OA also *all refer to Westmoreland*. Thus, the Examiner continues to refer to Westermoreland, even with new citations, despite changing the name of the applied reference to "Vanell."

Second, the reason Applicants draw attention to this is because the Examiner's arguments, supposedly drawing support from the newly-cited Vanell reference, still fail to establish a *prima facie* case of obviousness. In addition to being the same arguments as those used in the 01/03/02 FOA, the Examiner *still refers to the Westmoreland reference*, for which all salient points were previously and completely argued in the Appeal Brief of August 5, 2002, pertaining to the 35 U.S.C. § 102(e) rejection over Westmoreland. Since Applicants have already responded to the Examiner's 35 U.S.C. § 102(e) rejection over Westmoreland (01/03/02 FOA), and since the Examiner uses the same arguments in the present rejection, complete with citations still pertaining to Westmoreland, Applicants deem their previous arguments completely valid and on point. Applicants submit that merely substituting the name "Vanell" in the place of

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1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
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“Westmoreland” without making any substantive changes, and without even referencing the disclosure of the Vanell reference, does not constitute a valid rejection, because it does not provide “the relevant teachings of the prior art relied upon. . .” M.P.E.P. § 706.02(j), p. 700-31.

Third, even if the rejection were valid, which it is not, Vanell does not teach or suggest *any* of the recitations of Applicants’ independent claims 17 and 22. Specifically, Vanell does not teach or suggest at least Applicants claimed “first polishing liquid containing tetravalent cerium ions in a first concentration” (claim 17), or “first polishing liquid containing cerium (IV) nitrate in a first concentration” (claim 22), as Vanell only discloses “cerium” *once*, in the context of “a colloidal solution containing electrically charged alumina, silica, cerium oxide particles” (Vanell, col. 2, ll. 9 – 10). Vanell’s “cerium oxide particles” are clearly not the same as Applicants’ claimed “tetravalent cerium ions” or “cerium (IV) nitrate.” Vanell also does not teach or suggest the remaining recitations of Applicants’ claims 17 or 22, namely, “adding a solvent to said first polishing liquid to form a second polishing liquid containing tetravalent cerium ions in a second concentration lower than the first concentration” (claim 17, or “cerium (IV) nitrate” in claim 22), “polishing a surface of a substrate containing Ru or a Ru compound in a surface region with the second polishing liquid” (claims 17 and 22), or “wherein said addition of the solvent is carried out upon or immediately before the polishing of said substrate” (claims 17 and 22). For example, Vanell does not even teach or suggest “Ru” or “ruthenium” anywhere in its disclosure. An electronic search of the Vanell patent as available on the USPTO website does not reveal any reference to “Ru,” or “ruthenium.” This is all in addition to the Examiner’s admission that “Westmoreland [Vanell] differs in failing to explicitly teach the addition of the solvent is carried out upon or immediately before the polishing of said substrate, in claims 17 and 22” (12/12/02 OA, page 4, lines 1 – 3).

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1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
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Finally, Applicants point out that while Vanell does teach that “the above invention can be used to mix any number of chemicals” (column 8, lines 9 – 10), Vanell repeatedly teaches that “[d]uring the chemical mechanical polishing of semiconductor substrate 43, slurry 41 is preferably applied to platen 42 at room temperature while semiconductor substrate 43 is preferably heated to an elevated temperature” (column 7, lines 17 – 20). As evident from Vanell’s disclosure, Vanell only teaches use and application of *one* slurry and not Applicants’ claimed “first polishing liquid,” “second polishing liquid,” and certainly not “polishing a surface of a substrate containing Ru or a Ru compound in a surface region with the second polishing liquid” (claims 17 and 22). Thus, the Examiner’s allegation that “polishing a surface of a substrate containing Ru or a Ru compound in a surface region with the second polishing liquid, as in claims 12” (12/12/02 OA, page 3, lines 21 – 22) is incorrect, whether it applies to claims 11 and 17 – 22 (part of this rejection), or to claim 12 (which was not even part of this rejection, despite the Examiner’s mention of it on page 3 of the 12/12/02 OA).

Turning now to the Danielson reference, the Examiner broadly alleged that “Danielson teaches a method of preparing an abrasive solution (polishing liquid), mixing the abrasive solution with an oxidant (same as diluting the initial polishing liquid) to form a slurry (a second polishing liquid...)” (12/12/02 OA, page 4, lines 7 – 9). Applicants dispute this allegation, as Danielson’s mixing produces only *one* polishing solution, and this is not equivalent to Applicants’ claimed “adding a solvent to said first polishing liquid” (claims 17 and 22).

Danielson teaches that polishing is carried out after mixing of an abrasive solution and an oxidant solution. *See* Danielson, Abstract. The Examiner alleged that mixing of the abrasive solution and oxidant solution is equivalent to dilution of the abrasive solution (“mixing the abrasive solution with an oxidant (same as diluting the initial polishing liquid)” (12/12/02 OA,

FINNEGAN
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DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
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page 4, lines 8 – 9)). Applicants submit that the Examiner's allegations are incorrect.

Danielson's oxidant solution, disclosed in column 4, lines 28 – 30, is a mixed solution of potassium ferricyanide and an acetate buffer, and it is not a solvent for the abrasive solution.

Moreover, Danielson does not cure the deficiencies of Vanell to allegedly produce Applicants' claimed invention. Danielson does not teach or suggest "Ru," "Ru compound," "cerium," or even "ions" anywhere in its disclosure. As such, when Danielson's "mixed slurry is delivered immediately to the polishing surface of the polishing pad" (column 5, lines 45 – 46), this is clearly different from Applicants' claimed "adding a solvent to said first polishing liquid to form a second polishing liquid containing tetravalent cerium ions in a second concentration lower than the first concentration" (claim 17, or "cerium (IV) nitrate" in claim 22). Therefore, the present invention, as recited in independent claims 17 and 22, cannot be attained based merely on Vanell's disclosure, taken alone or in combination with Danielson.

Moreover, while the Examiner alleged "it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to modify Westmoreland [Vanell] by using Danielson's method" (12/12/02 OA, page 4, lines 13 – 15), Applicants have already demonstrated herein the impropriety of this combination, as both references do not teach or suggest all the elements of Applicants' independent claims 17 and 22, whether they are taken alone or combined together. Therefore, the Examiner's application of Vanell and Danielson as references does not satisfy the tenants of a proper 35 U.S.C. § 103(a) rejection. The Examiner has therefore not met an essential criteria for establishing a *prima facie* case of obviousness, wherein "the prior art reference (or references when combined) must teach or suggest all the claim limitations." See M.P.E.P. §§ 2142, 2143, and 2143.03.

FINNEGAN
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DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
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Even though Vanell does not teach or suggest all the features of Applicants' claimed invention, Applicants have demonstrated that the Examiner's application of Danielson does not render the elements of Applicants' claims obvious. Danielson, taken in combination with Vanell, still does not establish that there would have been the requisite suggestion or motivation in either reference to modify them to teach or suggest Applicants' claimed invention. One skilled in the art would only arrive at the present claimed invention by consulting Applicants' disclosure. Therefore, the only way to construct the claimed invention from the cited references would be to rely on aspects related to the present invention. Such reliance, however, would constitute improper hindsight reasoning.

There is no suggestion or motivation to modify Vanell or Danielson to produce Applicants' claimed invention. Even the Examiner's characterization of the references still does not establish that there would have been the requisite suggestion or motivation to modify them. "The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." M.P.E.P. § 2143.01, p. 2100-124, citing *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). As mentioned above, Vanell's invention does not teach or suggest *any* of the recitations of Applicants' independent claims 17 and 22, and Danielson's teaching of mixing potassium ferricyanide and an acetate buffer with an abrasive, which is not a solvent for an abrasive solution, does not cure Vanell's deficiencies. These two disclosures diverge both in their aim and in their method of slurry application. Because of this, it would not have been obvious to combine Danielson and Vanell, since, for the reasons presented above, it still does not produce Applicants' claimed invention. Likewise, there cannot be any expectation of success generated

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1300 I Street, NW
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202.408.4000
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from combining these two references, because their combination still would not produce Applicants' claimed invention.

As Applicants have already established that the applied references cannot be modified to produce the present invention, Applicants submit that, according to the M.P.E.P., the Examiner's citation of Vanell and Danielson is not sufficient to establish *prima facie* obviousness over Applicants' independent claims 17 and 22.

Finally, regarding dependent claims 11 and 18 – 21,

“Examiners are reminded that a dependent claim is directed to a combination including everything recited in the base claim and what is recited in the dependent claim. It is this combination that must be compared with the prior art, exactly as if it were present as one independent claim.” M.P.E.P.

§ 608.01(n)(III), p. 600-77. “If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious.” M.P.E.P. § 2143.03, p. 2100-26.

In summary, the Examiner has therefore not met the essential criteria for establishing a *prima facie* case of obviousness, and has not set forth a proper 35 U.S.C. § 103(a) rejection.

Applicants have demonstrated above that the Examiner: (a) has not shown all recitations of Applicants' claimed invention are taught or suggested by Vanell or Danielson; (b) has not shown any requisite motivation to modify Vanell or Danielson to produce Applicants' claimed invention; and (c) has not shown there would be any reasonable expectation of success from modifying Vanell or Danielson in order to produce the present claimed invention. Thus,

Applicants submit that the Examiner's reliance on Vanell and Danielson fails to establish *prima facie* obviousness.

FINNEGAN
HENDERSON
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DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
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Therefore, Applicants submit that independent claims 17 and 22 are allowable, for the reasons already argued above. In addition, dependent claims 11 and 18 – 21 are also allowable at least by virtue of their dependency from allowable base claim 17. Therefore, Applicants respectfully submit that the improper 35 U.S.C. § 103(a) rejection of independent claims 17 and 22 should be removed, as should the rejection of claims 11 and 18 – 21.

Regarding the Rejection of Claim 12 under 35 U.S.C. § 103(a):

Applicants respectfully traverse the rejections of claim 12, as detailed above, for the following reasons. Applicants respectfully disagree with the Examiner's arguments and conclusions, and submit that a *prima facie* case of obviousness has not been established.

The requirements for a proper 35 U.S.C. § 103(a) rejection have been set forth previously in this Amendment.

Applicants disagree with the Examiner's arguments and conclusions. The Examiner does not show that all the elements of Applicants' claims are met in Westmoreland, and does not show that there is any suggestion or motivation to modify the cited reference to result in Applicants' claimed invention. As previously discussed, "[t]o establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art." See M.P.E.P. § 2143.03, p. 2100-26.

A *prima facie* case of obviousness has not been made, since Applicants have already demonstrated that Westmoreland fails to teach all of the features of independent claim 17, as specifically argued in the Appeal Brief of August 5, 2002. The Examiner has repeated the same allegation from the 01/03/02 FOA (page 5, lines 12 – 13) in the 12/12/02 OA (page 5, lines 1 – 2) that Westmoreland, though this time "in view of Danielson," "differs only in failing to teach the Ru compound is SrRuO₃." This statement is only partially true, since Westmoreland differs

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1300 I Street, NW
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202.408.4000
Fax 202.408.4400
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from Applicants' invention in several other ways (such as those pointed out in the Appeal Brief of August 5, 2002), and Westmoreland's failure to teach that the Ru compound is SrRuO_3 still does not address the elements of independent claim 17 that Westmoreland neither teaches nor suggests. These points were argued conclusively in the Appeal Brief of August 5, 2002, and are supplemented herein in the previous section to challenge usage of the same arguments as applied to Vanell.

Applicants contest the Examiner's allegation that "it would have been obvious ... to modify Westmoreland in view of Danielson by using a Ru compound such as SrRuO_3 " (12/12/002 OA, page 5, lines 6 – 8). Applicants again submit (as in the Appeal Brief of August 5, 2002) that the Examiner's statement is an unsubstantiated generalization of questionable relevance to rejected claim 12. Applicants have already established, in the Appeal Brief on page 4 and page 9, that SrRuO_3 has a perovskite crystal structure, and already established that Westmoreland admits not being able to etch crystalline Ru oxide compounds, of which SrRuO_3 is an example. Applicants also submit that Danielson does not even mention "Ru" or "ruthenium" anywhere in its disclosure. Thus, a combination of Westmoreland and Danielson on this point is improper.

Furthermore, the Examiner introduced Takikawa to allege that "Takikawa teaches a metal oxide film containing Ru and a metal M provides a very stable structure of RuSrO_3 (column 2, lines 39-45), which read on a Ru compound is SrRuO_3 " (12/12/02 OA, page 5, lines 3 – 5).

Applicants submit that whether or not Takikawa's "metal M provides a very stable structure of RuSrO_3 " is irrelevant, because Takikawa still does not cure the deficiencies of Westmoreland or Danielson, as it does not teach or suggest the features of Applicants' independent claim 17 not taught or suggested by Westmoreland or Danielson.

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1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
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Applicants also submit that there is no motivation from within Takikawa to combine it with Westmoreland or Danielson. Takikawa is directed "to a thermal head used in thermal character recording" (column 1, lines 6 – 7), and has nothing to do with Applicants' claimed polishing methods, or the polishing taught by Westmoreland and Danielson. The present invention solves problems not addressed by Takikawa, and there would be no motivation in Takikawa to modify it to solve the problems Applicants have solved with the present invention. Since Takikawa directs its attention to thermal character recording problems using thermal heads, which is not related in any way to Applicants' claimed polishing methods, it is therefore considered nonanalogous art. Similarly, without any motivation from within Takikawa to modify it, there can be no reasonable expectation of success from modifying Takikawa in combination with Westmoreland and/or Danielson to somehow produce Applicants' present invention.

The Examiner has therefore not met the essential criteria for establishing a *prima facie* case of obviousness. "In the absence of a proper *prima facie* case of obviousness, an applicant who complies with the other statutory requirements is entitled to a patent. ... On appeal to the Board, an applicant can overcome a rejection by showing insufficient evidence of *prima facie* obviousness..." In re Rouffet, 47 USPQ2d 1453, 1455 (Fed. Cir. 1998).

Finally, Applicants submit that dependent claim 12 is also allowable at least by virtue of its dependence from base claim 17. Therefore, Applicants deem the rejection overcome.

Regarding the new claims:

Finally, Applicants have introduced new claims 23 – 26 to provide coverage for other aspects of Applicants' invention. Applicants submit that new claims 23 – 26 are supported by the originally filed application, and therefore do not constitute new matter. Furthermore,

Applicants submit that these new claims are allowable, at least by virtue of their respective dependency from allowable independent claim 17 or 22.

Conclusion:

In referring to the specification and drawings, Applicants do not intend to limit the scope of the claims to the exemplary embodiments described in the specification and illustrated in the drawings.

In view of the foregoing, Applicants request the Examiner's reconsideration of the application and submit that the rejections detailed above should be withdrawn. For the reasons articulated herein, Applicants submit that independent claims 17 and 22 are allowable, for the reasons already argued above. In addition, dependent claims 11, 12, 18 – 21, and 23 – 26 are also allowable at least by virtue of their respective dependencies from allowable base claims 17 and 22. Applicants therefore request the Examiner's reconsideration of the application, and the timely allowance of the pending claims.

Should the Examiner continue to dispute the patentability of the claims after consideration of this Request, Applicants encourage the Examiner to contact Applicants' undersigned representative by telephone to discuss any remaining issues or to resolve any possible misunderstandings.

Please grant any extensions of time under 37 C.F.R. § 1.136 required in entering this response. If there are any fees due under 37 C.F.R. § 1.16 or 1.17 that are not enclosed,

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER ^{LLP}

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: March 11, 2003

By: 

David M. Longo
Reg. No. 53,235

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

APPENDIX TO AMENDMENT OF March 11, 2003

Version of Claims with Markings to Show Changes Made

AMENDMENTS TO THE CLAIMS:

Please amend claims 17 and 22, as follows:

17. (Twice Amended) A polishing method comprising:

preparing a first polishing liquid containing tetravalent cerium ions in a first concentration;

adding a solvent for dilution to said first polishing liquid to form a second polishing liquid containing tetravalent cerium ions in a second concentration lower than the first concentration;

polishing a surface of a substrate containing Ru or a Ru compound in a surface region with the second polishing liquid,

wherein said addition of the solvent is carried out upon or immediately before the polishing of said substrate.

22. (Amended) A polishing method comprising:

preparing a first polishing liquid containing cerium (IV) nitrate in a first concentration;

adding a solvent for dilution to said first polishing liquid to form a second polishing liquid containing cerium (IV) nitrate in a second concentration lower than the first concentration;

polishing a surface of a substrate containing Ru or a Ru compound in a surface region with the second polishing liquid,

wherein said adding of the solvent is carried out upon or immediately before the
polishing of said substrate.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com